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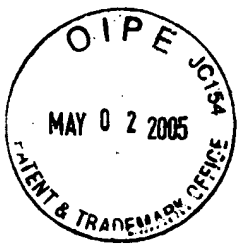

AGILENT TECHNOLOGIES, INC.
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PATENT APPLICATION
ATTORNEY DOCKET NO. 10010322-1

OFFICIAL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	Date: June 19, 2003
Phillip W. Barth et al.	:	
Serial No.: 09/938,909	:	Group Art Unit: 1743
Filed: Aug. 24, 2001	:	
For: APPARATUS AND METHOD FOR SIMULTANEOUSLY CONDUCTING MULTIPLE CHEMICAL REACTIONS	:	Examiner: Dwayne K. Handy

OFFICIAL AMENDMENT

Mail Stop Non Fee Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

An Office Action mailed March 26, 2003 was received for the above-referenced patent application. Applicant respectfully requests consideration of the following amendment.

A Certificate of Transmission is provided on the last page of this document that applies to all 20 pages herein.

Appendix E
Request for Declaration of Interference
USSN 10/789,678

IN THE CLAIMS

Claims 1-48 were pending, as originally filed. Claims 19-48 have been withdrawn from consideration by the Examiner. New Claim 49 has been added herein. Therefore, Claims 1-18 and 49 are currently pending and no claim has been amended. The status of the claims is shown in parenthesis at the beginning of each claim.

Claim 1 (Original): A method of simultaneously conducting multiple chemical reactions in a reaction assembly that comprises a microtiter plate of wells containing test samples and an array of sets of chemical reactants comprising the steps of:

assembling the array of sets of chemical reactants to the microtiter plate of test samples such that the array covers open ends in the test sample wells of the microtiter plate to form a plurality of closed cells, each closed cell comprising a set of chemical reactants and a respective test sample;

sealing the microtiter plate to the array to create one or more of a gas tight, a liquid tight, and a fluid tight seal; and

mechanically agitating the sealed reaction assembly to contact the test samples with the chemical reactants in each closed cell simultaneously

Claim 2 (Original): The method of Claim 1, wherein the step of assembling comprises the step of placing a pliable gasket between the microtiter plate and the array, the gasket having an arrangement of through holes that align with the test sample wells and the sets of chemical reactants; and the step of sealing comprises the step of applying one or more of mechanical clamps, radiation, heat, external fluid pressure, vacuum and an adhesive to the reaction assembly.

Claim 3 (Original): The method of Claim 2, wherein the gasket further comprises an adhesive on at least one gasket surface that interfaces with the microtiter plate or the array, and wherein the step of sealing further comprises removing the one or more of mechanical clamps, radiation, heat, external fluid pressure, and vacuum after a period of time.

Claim 4 (Original): The method of Claim 3, wherein the adhesive is selected from an ultraviolet (UV) light curable adhesive that has increased adhesion with the application of UV light to the adhesive, and a releasable adhesive that has reduced adhesion with the application of one or more of heat, cold and radiation to the adhesive.

Claim 5 (Original): The method of Claim 2, wherein in the step of placing the gasket, the gasket further has at least one channel that interconnects at least two through holes, such that in the step of assembling, the reaction assembly has at least two closed cells that are interconnected, and wherein in the step of mechanically agitating, the agitation has an acceleration, and the step of mechanically agitating comprises the step of incrementally increasing the acceleration to sequentially mix the test samples of the interconnected closed cells.

Claim 6 (Original): The method of Claim 5, wherein the interconnected closed cells are located adjacent to each other.

Claim 7 (Original): The method of Claim 1, wherein in the step of assembling, the array is made of a flexible material, and wherein in the step of sealing, the array is placed against the microtiter plate using one or more of mechanical clamps, radiation, heat, external fluid pressure, vacuum and an adhesive to seal the reaction assembly.

Claim 8 (Original): The method of Claim 1, wherein in the step of assembling, the array is made of an optically transparent flexible film having an adhesive surface that surrounds the sets of chemical reactants, the adhesive surface being contacted with the microtiter plate.

Claim 9 (Original): The method of Claim 1, wherein in the step of assembling, the array is made of a flexible material having an adhesive on a surface that comprises the sets of chemical reactants, and the adhesive surface is contacted with the microtiter plate, and wherein the step of sealing comprises applying one or more of mechanical clamps, radiation, heat, external fluid pressure, and vacuum to the reaction assembly for a period of time until the adhesive adheres the array to the plate.

Claim 10 (Original): The method of Claim 9, wherein the adhesive is selected from an ultraviolet (UV) light curable adhesive that has increased adhesion with the application of UV light to the adhesive, and a releasable adhesive that has reduced adhesion with the application of one or more of heat, cold and radiation to the adhesive.

Claim 11 (Original): The method of Claim 1, wherein the test sample wells are spatially arranged in a surface of the microtiter plate, each well having a side wall adjacent to a closed end that together enclose the well except for an open end at the surface of the microtiter plate, and wherein the array comprises an array substrate having the sets of chemical reactants bound to an array surface of the array substrate in an array pattern of features, the array pattern being similar to the spatial arrangement of test sample wells on the microtiter plate.

Claim 12 (Original): The method of Claim 1, wherein in the step of mechanically agitating, a difference in mass densities between the test sample and gas filling any space between the test sample and the set of chemical reactants in each closed cell causes mixing of the test sample with the chemical reactants in each closed cell.

Claim 13 (Original): The method of Claim 1, further comprising the step of analyzing reaction products in the closed cells after the step of mechanically agitating.

Claim 14 (Original): The method of Claim 13, wherein one or both of the microtiter plate and the array is optically transparent.

Claim 15 (Original): The method of Claim 1, further comprising the step of analyzing reaction products after the step of mechanically agitating comprising the steps of:

disassembling the reaction assembly;

rinsing the array; and

interrogating the array.

Claim 16 (Original): The method of Claim 1, wherein the microtiter plate is selected from a 96, 234, 384, and 1536 well microtiter plate and the number of sets of chemical reactants on the array match the selected microtiter plate.

Claim 17 (Original): The method of Claim 1, wherein each set of chemical reactants is an array feature that comprises a subarray having the chemical reactants arranged in a subarray pattern of subfeatures, and wherein the chemical reactant is different in at least one feature or in at least one subfeature on the array.

Claim 18 (Original): The method of Claim 1, wherein the test sample is different in at least one well of the microtiter plate.

Claim 19 (Withdrawn): A method of simultaneously conducting multiple chemical reactions between a first chemical sample and a second chemical sample comprising the steps of:

providing a plate having a plurality of wells spatially arranged in a surface of the plate in a well array pattern, each well having a side wall adjacent to a closed end that enclose the well except for an open end that is opposite the closed end and that is

adjacent to the plate surface, the plurality of wells for receiving the first chemical sample via the open end;

providing an array of the second chemical sample, the array comprising sets of the second chemical sample bound to and spatially arranged on a surface of an array substrate in an array pattern of features, the well array pattern being spatially similar to the feature array pattern;

assembling the array onto the plate to form a sealed reaction assembly, such that the surface of the array faces the surface of the plate and encloses the open ends of the plurality of wells to form closed cells, each closed cell comprising the first chemical sample and a respective set of the second chemical sample features, wherein the sealed reaction assembly is one or more of gas tight, liquid tight, and fluid tight; and

contacting the first chemical sample with the second chemical sample in each closed cell of the sealed reaction assembly.

Claim 20 (Withdrawn): The method of Claim 19, wherein the array substrate is made of a flexible material, and wherein in the step of assembling, the array substrate is contacted with the plate using one or more of mechanical clamps, radiation, heat, external fluid pressure, vacuum and an adhesive to seal the reaction assembly.

Claim 21 (Withdrawn): The method of Claim 19, wherein the array substrate is made of an optically transparent flexible film having an adhesive on the surface to which the second chemical samples are bound, the adhesive surrounding the features, and wherein in the step of assembling, the adhesive is contacted with the plate surface to seal the reaction assembly.

Claim 22 (Withdrawn): The method of Claim 20, wherein the flexible array substrate further comprises the adhesive on the surface to which the second chemical samples are bound, and wherein in the step of assembling, the adhesive surface of the array is contacted with the plate surface, and the reaction assembly is sealed using one or more of heat, radiation, and pressure.

Claim 23 (Withdrawn): The method of Claim 22, wherein the adhesive is selected from a releasable adhesive, such that adhesion is reduced with the application of heat, cold or radiation to the adhesive, and an ultraviolet light (UV) curable adhesive, such that adhesion is increased with the application of UV light to the adhesive.

Claim 24 (Withdrawn): The method of Claim 19, wherein the plate further comprises a pliable gasket material integral with the surface of the plate, the gasket comprising a plurality of through holes spatially arranged through a thickness of the gasket material to correspond with arrangement of the plurality of wells, and wherein in the step of assembling, the surface of the array is contacted with the integral gasket with one or more of mechanical clamps, radiation, heat, external fluid pressure, vacuum and an adhesive to seal the reaction assembly.

Claim 25 (Withdrawn): The method of Claim 24, wherein the integral gasket further has at least one channel that interconnects at least two through holes, such that in the step of assembling, the reaction assembly has at least two closed cells that are interconnected, and wherein in the step of contacting, the first chemical samples in the interconnected closed cells mix with each other and with the second chemical samples in each interconnected closed cell via the channel.

Claim 26 (Withdrawn): The method of Claim 19, further comprising the step of providing a gasket having a plurality of through holes spatially arranged through a thickness of the gasket in a through hole array pattern, wherein the well pattern, the array pattern and the through hole pattern are dimensionally and spatially similar, the gasket being made of a pliable material, and wherein the step of assembling comprises placing the pliable gasket between the plate surface and the array surface, such that the plurality of through holes are aligned with the features of the second chemical sample and the wells, and sealing the gasket to the array and the plate using one or more of mechanical clamps, radiation, heat, external fluid pressure, vacuum and an adhesive to seal the reaction assembly.

Claim 27 (Withdrawn): The method of Claim 26, wherein the pliable gasket comprises the adhesive on at least one surface adjacent either the plate surface or the array surface.

Claim 28 (Withdrawn): The method of Claim 27, wherein the adhesive is selected from a releasable adhesive, such that adhesion is reduced with the application of heat, cold or radiation to the adhesive, and an ultraviolet light (UV) curable adhesive, such that adhesion is increased with the application of UV light to the adhesive.

Claim 29 (Withdrawn): The method of Claim 26, wherein in the step of providing the gasket, the gasket further has at least one channel that interconnects at least two through holes, such that in the step of assembling, the reaction assembly has at least two closed cells that are interconnected, and wherein in the step of contacting, the first chemical samples in the interconnected closed cells mix with each other and with the second chemical samples in each interconnected closed cell via the channel.

Claim 30 (Withdrawn): The method of Claim 19, wherein the step of contacting comprises one or more of mechanically agitating the reaction assembly, controlling the reaction temperature of the reaction assembly, directing radiation into the assembly, and inverting the reaction assembly to cause mixing between the first chemical sample and the second chemical sample.

Claim 31 (Withdrawn): The method of Claim 19, before the step of assembling, further comprising the steps of:

providing a gasket having a plurality of spatially arranged through holes, the arrangement of through holes being similar to the arrangement of the wells and of the array pattern, the gasket being made of a pliable material; and

introducing an aliquot of the first chemical sample into each well of the plate, the first chemical samples being fluid and partially filling the wells, and introducing a volume of a second fluid to the wells, the second fluid having a mass density that is

different from a mass density of the first chemical sample and the second fluid being non-reactive with the first chemical sample and second chemical sample,

wherein the step of assembling comprises the steps of:

placing the gasket on the surface of the plate,

placing the array on the gasket, such that the array features are aligned with the through holes and the wells, and

sealing the plate, the gasket and the array together using one or more of mechanical clamps, radiation, heat, external fluid pressure, vacuum and an adhesive,

and wherein the step of contacting comprises mechanically agitating the reaction assembly to mix the first chemical sample and the second chemical sample in each closed reaction cell.

Claim 32 (Withdrawn): The method of Claim 31, wherein in the step of mechanically agitating, the difference in the mass densities of the first chemical sample and the second fluid causes mixing of the first chemical sample with the second chemical sample in each closed cell.

Claim 33 (Withdrawn): The method of Claim 31, wherein in the step of providing the gasket, the gasket further has at least one channel that interconnects at least two through holes, such that in the step of assembling, the reaction assembly has at least two closed cells that are interconnected, and wherein in the step of mechanically agitating, the agitation has an acceleration, and the step of mechanically agitating comprises incrementally increasing the acceleration in magnitude to sequentially mix the first chemical samples of the interconnected closed cells.

Claim 34 (Withdrawn): The method of Claim 33, wherein the interconnected closed cells are located adjacent to each other.

Claim 35 (Withdrawn): The method of Claim 31, wherein the gasket further comprises the adhesive on surfaces that interface with the plate and the array, and

wherein the step of sealing further comprises removing the one or more of mechanical clamps, radiation, heat, external fluid pressure, and vacuum after a period of time.

Claim 36 (Withdrawn): The method of Claim 35, wherein the gasket is made of a flexible adhesive film.

Claim 37 (Withdrawn): An apparatus for simultaneously conducting multiple chemical reactions comprising:

a plate having a plurality of wells spatially arranged in a surface of the plate in a well array pattern, each well having a side wall adjacent to a closed end that enclose the well except for an open end that is opposite the closed end and that is adjacent to the plate surface, the plurality of wells for receiving a test sample via the open end;

an array of sets of chemical reactants, the sets of chemical reactants being bound to and spatially arranged on a surface of an array substrate in an array pattern of features, the well array pattern being spatially similar to the feature array pattern, wherein the array surface faces the plate surface and covers the open ends of the wells to form closed cells, each closed cell comprising a respective test sample and a respective set of the chemical reactants; and

a seal between the plate and the array that is one or more of gas tight, liquid tight, and fluid tight.

Claim 38 (Withdrawn): The apparatus of Claim 37, wherein the seal comprises a pliable gasket and one or more of mechanical clamps, radiation, heat, external fluid pressure, vacuum and an adhesive, the gasket having a plurality of through holes spatially arranged through a thickness of the gasket in a through hole pattern that is dimensionally and spatially similar to the well pattern and the array pattern .

Claim 39 (Withdrawn): The apparatus of Claim 38, wherein the pliable gasket is a flexible adhesive film.

Claim 40 (Withdrawn): The apparatus of Claim 38, wherein the pliable gasket further has at least one channel that interconnects at least two through holes, such that

the respective test samples in the interconnected closed cells can be mixed via the channel.

Claim 41 (Withdrawn): The apparatus of Claim 38, wherein the pliable gasket is integral with the surface of the plate.

Claim 42 (Withdrawn): The apparatus of Claim 37, wherein the seal comprises the array substrate being made of a flexible material and one or more of mechanical clamps, radiation, heat, external fluid pressure, vacuum and an adhesive.

Claim 43 (Withdrawn): The apparatus of Claim 37, wherein the seal comprises the array substrate being made of an optically transparent flexible film having an adhesive that surrounds the features on the array surface, the adhesive being contacted with the plate surface.

Claim 44 (Withdrawn): The apparatus of Claim 37, wherein the seal comprises using an adhesive selected from a releasable adhesive, such that adhesion is reduced with the application of heat, cold or radiation to the adhesive, and an ultraviolet light curable adhesive, such that adhesion is increased with the application of ultraviolet light to the adhesive.

Claim 45 (Withdrawn): The apparatus of Claim 44, wherein the releasable adhesive is an ultraviolet light-releasable adhesive.

Claim 46 (Withdrawn): The apparatus of Claim 41, wherein in the plate is a microtiter plate selected from a 96, 234, 384, and 1536 well plate, and wherein the array has the array pattern that matches the selected microtiter plate.

Claim 47 (Withdrawn): A kit for simultaneously conducting multiple different assays of biological materials comprising:

an array having a plurality of sets of chemical reactants spatially arranged on an array substrate; and

a plate having a plurality of spatially arranged wells in the plate, the wells being closed at one end and open at an opposite end for receiving a sample under test,

wherein the array and the plate form a multiple closed cell reaction assembly when the array is assembled to the plate, such that the array covers the open ends of the wells to form closed cells, each closed cell comprising the test sample and a respective set of the chemical reactants, the reaction assembly comprising a seal between the plate and the array that is one or more of gas tight, liquid tight, and fluid tight when assembled.

Claim 48 (Withdrawn): The kit of Claim 47, further comprising one or more of:

a pliable gasket having a plurality of spatially arranged through holes similar to the spatial arrangement of the wells and the sets of reactants, the pliable gasket providing the seal between the plate and the array when combined with one or more of mechanical clamps, radiation, heat, external fluid pressure, vacuum and an adhesive;

an adhesive for sealing at least the array and the plate;

a sample biological material for a control experiment;

instructions for simultaneously conducting multiple reactions; and

instructions for assembling the array to the plate.

Claim 49 (New): A method of simultaneously conducting multiple chemical reactions in a reaction assembly that comprises a microtiter plate of wells containing test samples and an array of sets of chemical reactants comprising the steps of:

assembling the array of sets of chemical reactants to the microtiter plate of test samples such that the array covers open ends in the test sample wells of the microtiter plate to form a plurality of closed cells, each closed cell comprising a set of chemical reactants and a respective test sample, the sets of chemical reactants being bound to an array surface of the array;

sealing the microtiter plate to the array to create one or more of a gas tight, a liquid tight, and a fluid tight seal; and

mechanically agitating the sealed reaction assembly to contact the test samples with the array-bound chemical reactants in each closed cell simultaneously.

REMARKS

The patent application was originally filed with Claims 1-48. Claims 1-48 were subject to a restriction requirement. Applicant elected Claims 1-18 with traverse in a previous response (paper no. 5). The Examiner made the restriction final in the pending Office Action. Claims 1-4 and 7-18 were rejected and Claims 5-6 were objected to. For the reasons set forth below, reconsideration is respectfully requested. Also, Applicant has added new Claim 49. No new matter has been added. Consideration of new Claim 49 is respectfully requested.

Claims 1, 2, 7, 9, 11, 12 and 16-18 were rejected under 35 USC 102(e) as being anticipated by Dunnington et al. (USPN 6,376,256 B1, filed Feb. 19, 1999, issued April 23, 2002). The Examiner contended that Dunnington et al. teach a process for the rapid arraying and synthesizing combinatorial libraries, wherein the process includes assembling an array of reactants on an adhesive film, placing the array over a well plate to form a closed cell, sealing the array together and mechanically agitating when placed in a vacuum or centrifuge or both. The Examiner referred to Columns 4-7 and Column 9, lines 28-30, and Figures 3-6 and 12 of USPN 6,376,256 B1. Applicant respectfully traverses this rejection.

Dunnington et al. disclose in USPN 6,376,256 B1 using beads that support reactants during deposition of the reactants into a well plate of test samples for performing assays with the reactants and test samples. The beads are assembled into an array pattern using an adhesive to temporarily hold the beads in the array pattern for deposition into capillaries or wells of a plate. The adhesive is dissolved or evaporated to release the bead from the adhesive. In some embodiments, the beads are released into a capillary support and the capillary support is placed on the well plate of test samples. Tips of individual capillaries have openings The tips are immersed in individual wells in the well plate. In other embodiments, the beads are released directly into individual wells in the well plate to contact the test sample therein.

Moreover, Dunnington et al. disclose that the reactants that were adhered or assembled to the beads are cleaved from the beads using a reagent to release the reactant for mixing with the test samples. See Column 2, lines 44-54, lines 55-65 (in particular lines 63-65), Column 6, line 57 to Column 7, line 9, Column 8, lines 8-11 of USPN 6,376,256 B1, for example. Reaction products resulting from the mixing are contained in the well plate wells. See Column 7, lines 9-11 of USPN 6,376,256 B1, for example. Only at Column 7, lines 17-21 of USPN 6,376,256 B1 do Dunnington et al. generally disclose that compounds can be tested while attached to the beads, but the beads are released from the adhesive-coated film directly into the wells of the well plate.

The present invention comprises both a microtiter plate of wells containing test samples and an array of sets of chemical reactants that are assembled together to form a reaction assembly for simultaneously conduct multiple chemical reactions. The sets of chemical reactants are bound to a surface of a substrate of the array. The sets of chemical reactants remain bound to the array during assembly, sealing and mechanical agitation according to the method. In fact, the resulting reaction products of the multiple chemical reactions are bound to the array The array features are interrogated to evaluate the reaction products. The array is also referred to in Applicant's Specification as a microarray. Chemical reactants are bonded either covalently or noncovalently to a surface of an array substrate as features that form the array. The array is the vehicle or substrate on which the chemical reactions occur and the reaction products remain for interrogation.

See for example, Applicant's Specification at page 9, lines 28-30 for covalent attachment to an array substrate; page 13, lines 13-21 for covalent or noncovalent attachment of a chemical to array substrate; page 14, lines 1-9 for a definition of feature bonded to array substrate; page 17, lines 30-32 for a chemical sample bound to a surface of the array substrate in a pattern of features; page 22, lines 16-21 for disassembling to rinse and analyze the array; page 23, lines 1-15 for analysis of the array; and page 25, lines 8-27 for reactants fixed to a surface of the array.

Accordingly, Dunnington et al fail to disclose "assembling the array of sets of chemical reactants to the microtiter plate of test samples such that the array covers open ends in the test sample wells of the microtiter plate to form a plurality of closed cells", as claimed in Applicant's Claim 1. Instead, Dunnington et al. disclose dissolving the array substrate such that the beads that support a chemical reactant are deposited either directly into capillaries of a capillary plate, which is assembled on a well plate, or directly into the wells of the well plate. Therefore, the 'dissolved array substrate' of Dunnington et al. is not available to seal to the well plate "to create one or more of a gas tight, a liquid tight, and a fluid tight seal", as further claimed in Applicant's Claim 1.

Moreover, the 'capillary plate' disclosed by Dunnington et al. is not an 'array of sets of chemical reactants', as claimed in Applicant's Claim 1, since Dunnington et al. disclose cleaving the chemical reactants from the beads to move out of the capillaries of the 'capillary plate' and mix with the samples in the wells of the well plate. Therefore, the 'sets of chemical reactants' are not bound to the 'capillary plate' and do not remain bound to the beads deposited into the 'capillary plate'.

Still further, the 'well plate' disclosed by Dunnington et al. is not an 'array of sets of chemical reactants', as claimed in Applicant's Claim 1, since Applicant's 'array' is claimed separately from the claimed 'microtiter plate' and is assembled on the 'microtiter plate', in accordance with Applicant's Claim 1.

For anticipation to be found, the cited reference must disclose each and every limitation of the claimed invention in order to maintain an anticipation rejection. *In re Paulsen*, 30 F.3d 1475, 1478, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994). Moreover, it is not enough that the prior art reference discloses all the claimed elements in isolation. Rather, as stated by the Federal Circuit, anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention as arranged in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984). In addition, the allegedly anticipating reference must be enabling and describe the claimed invention

sufficiently to have placed it in possession of a person of ordinary skill in the art. *In re Paulsen, supra*, at 1673. The anticipation determination is viewed from one of ordinary skill in the art. There must be no difference between the claimed invention and the reference disclosure as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

For the reasons set forth above, Applicant believes that Claim 1, as originally filed, is patentably distinct from that disclosed by Dunnington et al. Dunnington et al. fail to disclose each and every feature of the present invention claimed in Applicant's Claim 1 (*In re Paulsen*, cited *supra*.) as arranged in Applicant's Claim 1 (*Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co*., cited *supra*), such that there does exist a clear difference between the claimed invention and the reference disclosure as viewed by a person of ordinary skill in the field of the invention (*Scripps Clinic & Research Found v. Genentech Inc.*, cited *supra*). Therefore, Dunnington et al. fail to anticipate, or even make obvious, Applicant's Claim 1 and Claim 1 is allowable over Dunnington et al., as originally filed. Claims 2, 7, 9, 11, 12 and 16-18 are dependent from Claim 1 and are considered allowable over Dunnington et al. for at least the same reasons set forth above for Claim 1. Reconsideration and withdrawal of the 35 USC 102(e) rejection of Claims 1, 2, 7, 9, 11, 12 and 16-18 are respectfully requested.

Moreover, Applicant has added a new Claim 49 that includes the features of Claim 1 and further clarifies distinguishing features from that disclosed by Dunnington et al. For example, new Claim 49 recites in part "... the sets of chemical reactants being bound to an array surface of the array ..." (from Applicant's Claim 11, as originally filed), and "... mechanically agitating ... to contact the test samples with the array-bound chemical reactants ...". Support for Claim 49 can be found in the above-cited pages of Applicant's Specification.

For at least the same reasons set forth above for Claim 1, Dunnington et al. fail to anticipate the present invention as claimed in new Claim 49. Consideration and allowance of new Claim 49 are respectfully requested.

Claims 3, 4 and 10 were rejected under 35 USC 103(a) over Dunnington et al. in view of Woudenberg et al. (USPN 6,126,899). The Examiner contended that Dunnington et al. teach every element of Claims 3, 4 and 10 except for the use of the adhesive cited. The Examiner contended that Woudenberg et al. teach a device for detecting analytes in arrays of chemicals, where the device comprises two substrate layers bonded together to form a network of channels connecting reservoirs. The Examiner further contended that it would have been obvious to one having ordinary skill in the art to combine Woudenberg with Dunnington, such that one would add the adhesive teachings from Woudenberg to the method of Dunnington to provide additional seal between the stacked elements so that the elements stay together when not being subjected to centrifuging, but can still be released when the elements need to be taken apart. Applicant respectfully traverses this rejection.

Claims 3, 4 and 10 are ultimately dependent from Applicant's Claim 1 and include all of the features recited in Applicant's Claim 1. As provided above, Dunnington et al. in fact fail to disclose the present invention, as claimed in Applicant's Claim 1, contrary to that contended by the Examiner. Therefore, Dunnington et al. fail to disclose the present invention, as claimed in Applicant's Claims 3, 4 and 10, contrary to that contended by the Examiner Moreover, Applicant's Claim 1 was not rejected for obviousness under 35 USC 103. Therefore, Applicant's Claim 1 is allowable over Dunnington et al for the reasons set forth above. If an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious. *In re Fine*, 837, F.2d, 1071, 5 USPQ 2d, 1596 (Fed. Cir. 1988). Therefore, Claims 3, 4 and 10 are allowable over the teachings of Dunnington et al. in view of the teachings of Woudenberg et al. for at least the same reasons set forth above for the allowability of Applicant's Claim 1 over the teachings of Dunnington et al.

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IN FILE HISTORY

Dunnington et al. fail to disclose the present invention, as claimed in Applicant's Claims 8 and 13-15, contrary to that contended by the Examiner. Moreover, Applicant's Claim 1 was not rejected for obviousness under 35 USC 103. Therefore, Applicant's Claim 1 is allowable over Dunnington et al. for the reasons set forth above If an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious *In re Fine*, cited *supra*. Therefore, Claims 8 and 13-15 are allowable over the teachings of Dunnington et al. in view of the teachings of Desrosiers et al. for at least the same reasons set forth above for the allowability of Applicant's Claim 1 over the teachings of Dunnington et al.

In light of the above, the disclosure of Desrosiers et al. fails to add to that lacking in the disclosure of Dunnington et al. that which would render Applicant's Claims 8 and 13-15 obvious to one skilled in the art at the time the invention was made. It is respectfully submitted that one skilled in the art, having the benefit of the combined disclosures of Dunnington et al. and Desrosiers et al., still would not possess the present invention, as claimed. Therefore, an impermissible application of hindsight would be necessary to find obviousness therein. Reconsideration and withdrawal of the rejection of Claims 8 and 13-15 under 35 USC 103(a) with respect to the combined disclosures of Dunnington et al. and Desrosiers et al. are respectfully requested.

Claims 5 and 6 were objected by the Examiner for being dependent from a rejected base claim, but deemed allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim. Applicant is grateful for the indication of allowable subject matter in Claims 5 and 6. However, Claims 5 and 6 are ultimately dependent from Applicant's Claim 1 For the reasons set forth above, Claim 1 is not disclosed or suggested by Dunnington et al. and is an allowable claim. Therefore, Claims 5 and 6 should be allowable as originally written. Applicant respectfully requests reconsideration and allowance of Claims 5 and 6, as originally filed.

In summary, Claims 1-48 were pending. Claims 19-48 were withdrawn by the Examiner. Claims 1-18 are pending and new Claim 49 was added herein. Claims 1-4 and 7-18 were rejected and Claims 5 and 6 were objected to. For the reasons set forth above, Claims 1-18, as originally filed, and new Claim 49 are in condition for allowance. It is respectfully requested that Claims 1-18 and 49 be allowed, and that the application be passed to issue at an early date.

Should the Examiner have any questions regarding the above, please contact Michael J. Beck, Attorney for Applicant, Registration No. 40,907 at Agilent Technologies, Inc., telephone number (650) 485-3864. If attempts to reach Mr. Beck are unsuccessful, please contact the undersigned at the telephone number provided below.

Respectfully submitted,
PHILLIP W. BARTH ET AL.

By: Elizabeth E. Leitereg
Elizabeth E. Leitereg
Attorney for Applicant(s)
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CERTIFICATE OF TRANSMISSION
I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office to TC 1700 Before Final Facsimile number (703) 872-9310 on the date shown below.

Elizabeth E. Leitereg JUNE 19, 2003
Elizabeth E. Leitereg **Date**

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